



BIOLOGY NMDCAT EARLIER PREP

PMC UNIT WISE TEST Unit-1

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SAEED MDCAT TEAM

TOPIC:

✓ Cell Structure and Function

Q.1 During cell fractionation, the tissues are homogenized with special instruments and various components of the cells are separated by:

- A. Gel electrophoresis
- B. Chromatography
- C. Microscopy
- D. Density gradient centrifugation

Q.2 All of the following characteristics of life are shown both by plant and animal cells except:

- A. Sensitivity
- B. Photosynthesis
- C. Respiration
- D. Homeostasis

Q.3 Presence of large central vacuole is the characteristic feature of:

- A. Prokaryotes
- B. Fungi
- C. Protists
- D. Plants

Q.4 Which of following structures are found in eukaryotic cells?

(Key: ✓ = Present ; ✗ = Absent)

	Nuclear Membrane	Mitochondria	Ribosomes
A.	✗	✗	✗
B.	✗	✓	✗
C.	✓	✗	✗
D.	✓	✓	✓

Q.5 All of the following organisms contain peptidoglycan in their cell wall except:

- A. *P. notatum*
- B. *E. coli*
- C. *H. influenzae*
- D. *S. aureus*

Q.6 The fungal cell wall is composed of _____ while bacterial cell wall contains _____, respectively.

- A. Cellulose, hemi-cellulose
- B. Chitin, peptidoglycan
- C. Chitin, cellulose
- D. Peptidoglycan, pectin and silica

Q.7 It can never be a chemical component of cell wall:

- A. Phosphatidic acid
- B. Cellulose
- C. Pectin
- D. Hemicellulose

Q.8 Which of the following best describe the structure and functions of plasma membrane?

- A. Unit membrane model
- B. Ball and stick model
- C. Fluid mosaic model
- D. Sliding filament model

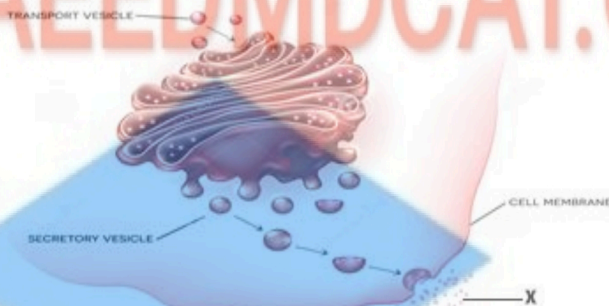
Q.9 Charged pores in plasma membrane can be responsible for all type of transport except:

- A. Diffusion
- B. Phagocytosis
- C. Facilitated diffusion
- D. Active transport

Q.10 Which of the following explain the process 'X' in the given diagram?



- A) Golgi apparatus
B) Mitochondria
C) Pinocytotic vesicles
D) Ribosomes
- Q.21** A tadpole's tail is gradually broken down during metamorphosis into an adult frog. Which organelle increases in number in the cells of the tail at this time?
A. Centriole
B. Golgi apparatus
C. Endoplasmic reticulum
D. Lysosome
- Q.22** Which of the following modifies proteins and lipids by adding carbohydrates?
A. Golgi apparatus
B. Plasma membrane
C. Polysome
D. Glyoxysomes
- Q.23** Fusion of lysosome with damaged mitochondria forms:
A. Autophagosome
B. Primary lysosome
C. Phagosome
D. Endosome
- Q.24** In Golgi apparatus, cisternae are thought to be moving from _____ to _____ face.
A. Inner, outer
B. Medial, lateral
C. Trans, cis
D. Convex, concave
- Q.25** During starvation, _____ is/are used to break cellular organelles into simpler components for energy.
A. Nucleus
B. Lysosomes
C. Golgi vesicles
D. Polyribosomes
- Q.26** Which of the following is a genetic defect causing accumulation of polysaccharides in cells?
A. Tay-Sach's disease
B. Glycogenosis type II disease
C. Phenylketonuria
D. Alkaptonuria
- Q.27** Which one of following organelles always contains DNA?
A. Centrioles
B. Lysosomes
C. Golgi apparatus
D. Mitochondria
- Q.28** The nuclei of both plant and animal cells contain one or more dense bodies known as nucleoli. Which one of the following correctly describes the function of nucleoli?
A. The formation of new DNA molecules
B. The organization of the spindle during nuclear division
C. The replication of mitochondria following nuclear division
D. The formation of ribosomes
- Q.29** In eukaryotic cells, transcription occurs in the nucleus. In which other organelle does transcription occur?
A. Endoplasmic reticulum
B. Mitochondrion
C. Golgi apparatus
D. Ribosomes
- Q.30** The table gives the description of membranous structures in a cell. Which structure is correctly matching to its function?
- | | Function | Structure |
|----|---------------------|--|
| A. | Packing of proteins | An organelle bounded by two membranes, the inner highly folded |
| B. | Aerobic respiration | A network of tubes and sacs, each tube and sac surrounded by a single membrane |
| C. | Mechanical Support | Network of channels extending throughout the cytoplasm. |
| D. | Lipid synthesis | A stack of elongated, curved sacs, each sac surrounded by a single membrane |
- Q.31** Interior of chloroplast is divided into heterogeneous structure, embedded in the matrix known as:
A. Grana
B. Thylakoids
C. Cristae
D. Cisternae
- Q.32** Cytochromes occur in:
A. Cristae of mitochondria
B. Outer mitochondrial membrane
C. Matrix of mitochondria
D. Intermembrane space



- A. Phagocytosis
C. Pinocytosis
- B. Autophagy
D. Exocytosis
- Q.11 _____ always pass passively through cell membrane.
A. Gases
C. Nitrogenous wastes
B. Food particles
D. Ionic substances
- Q.12 The soluble part of cytoplasm or fluid that remains when all organelles are removed is known as:
A. Solution
C. Gelatin material
B. Cytoskeleton
D. Cytosol
- Q.13 Which one of the following organelle is found in both prokaryotic and eukaryotic cells?
A. Centriole
C. Endoplasmic Reticulum
B. Nucleus
D. Ribosome
- Q.14 Ribosomes are composed of an almost equal amount of:
A. DNA and proteins
C. Phospholipids and cutin
B. rDNA and mRNA
D. rRNA and proteins
- Q.15 Identify the metal which is involved in the formation of functional ribosomes:
A. Ca^{+2}
C. Zn^{+2}
B. Mn^{+2}
D. Mg^{+2}
- Q.16 Which of the following best describe a 'polysome'?

	mRNA	Ribosomes
A.	Single molecule	Single particle
B.	Single molecule	Many particles
C.	Many molecules	Single particle
D.	Many molecules	Many particles

- Q.17 The key below can be used to separate the following cell organelles:
1. Membrane with definite pores - V
2. Inner membrane with stalked particles attached - W
3. Thylakoids- X
4. Hydrolytic enzyme-Y
5. Composed of one larger and one smaller subunit - Z
What are V, W, X, Y and Z?

	V	W	X	Y	Z
A.	Chloroplast	Lysosome	Nucleus	Ribosomes	Mitochondria
B.	Chloroplast	Nucleus	Lysosome	Mitochondria	Ribosomes
C.	Mitochondria	Ribosomes	Chloroplast	Nucleus	Lysosomes
D.	Nucleus	Mitochondria	Chloroplast	Lysosome	Ribosomes

- Q.18 What is the function of the smooth endoplasmic reticulum?
A. Aerobic respiration
B. Intercellular digestion
C. Synthesis of steroids
D. Reverse transcription
- Q.19 The outer membrane of the nuclear envelope is at places continuous with the:
A. Golgi apparatus
C. Endoplasmic reticulum
B. Lysosomes
D. Peroxisomes
- Q.20 Which of the following would be more prominent in a secretory cell than in a non-secretory cell?



- Q.33 In mitochondria, small knob-like structures called F_1 particles are found on:**
A. Outer membrane B. Inner membrane
C. Outer compartment D. Inner compartment
- Q.34 All of the following reactions occur in mitochondria except:**
A. Fatty acid metabolism B. Krebs cycle
C. Glycolysis D. Aerobic respiration
- Q.35 Activities of all the organelles are entirely under the control of nucleus except:**
A. Mitochondria B. RER
C. Lysosome D. Golgi apparatus
- Q.36 Peripheral area of nucleolus is granular because it contains _____.**
A. Ribosomal proteins B. rDNA
C. Precursors of ribosomal subunits D. rRNA
- Q.37 The presence of ribosomes in mitochondrial matrix indicate that they are involved in:**
A. Replication B. Translation
C. Reverse transcription D. Transcription
- Q.38 In case of plant cells, nucleus is pushed towards periphery due to the presence of:**
A. Mitochondria B. Golgi bodies
C. Vacuole D. Endoplasmic reticulum
- Q.39 Glyoxysomes rely upon _____ to provide energy for the germination of seedlings.**
A. Vitamins B. Glycogen
C. Succinate D. Fatty acids
- Q.40 Membrane which surrounds the vacuole is called:**
A. Plasmalemma B. Cell wall
C. Tonoplast D. Cisternae
- Q.41 It is the best description of the function performed by peroxisomes:**
A. H_2O_2 destruction B. Detoxification of heavy metals
C. Conversion of fats to carbohydrates D. Oxidative phosphorylation
- Q.42 These are absent in prokaryotic chromosome:**
A. Phosphate groups B. Double stranded DNA
C. Histone proteins D. Pentose sugar
- Q.43 Component of cell membrane which is present in all cells except bacteria:**
A. Phospholipids B. Sterols
C. Globular proteins D. Carbohydrates
- Q.44 Which of the following is not found in eukaryotic cells?**
A. Mesosome C. Nucleus
B. Labor of division D. Tubulin
- Q.45 The enzyme common in both glyoxysome and peroxisome is:**
A. Pyruvate decarboxylase C. Glycolic acid catalase
B. Hydrolase D. Glycolic acid oxidase
- Q.46 Chemically, peptidoglycan is composed of all of the following except:**
A. Polysaccharides B. Glycans
C. Short Amino acid chains D. Proteins
- Q.47 Tay-Sach's disease mostly affects which of the following organ in human body?**
A. Liver B. Kidneys
C. Brain D. Muscles
- Q.48 Which of the following mechanism needs energy in the form of ATP?**
A. Facilitated diffusion B. Diffusion
C. Osmosis D. Endocytosis
- Q.49 Identify the correct statement:**
A. Nucleus is visible in non-dividing cells only
B. RBCs have many nuclei
C. Egg cell has less number of nuclear pores
D. Chromosome is composed of DNA and negatively charged histones
- Q.50 Connection between nucleoplasm and cytoplasm is:**
A. Nuclear envelope C. Nuclear pore
D. Nucleolus



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PREPARATIONS

bio T-1 key

A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D				
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